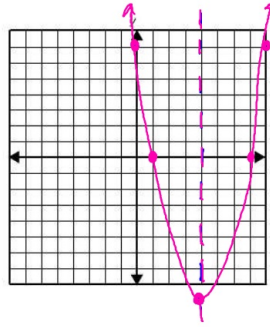


standard

1.) Graph $y = x^2 - 8x + 7$

$a = 1$ $b = -8$ $c = 7$
 $x = \frac{-b}{2a} = \frac{8}{2(1)} = 4$
 Axis of symmetry: $x = 4$
 Vertex: $(4, -9)$ $(4)^2 - 8(4) + 7$
 Vertex Form: $y = 1(x-4)^2 - 9$
 Direction of Opening: up $a > 0$
 y-intercept: $(0, 7)$
 x-intercepts: $(1, 0)$ $(7, 0)$

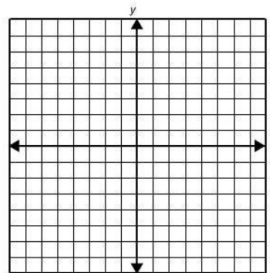
y-int: $x = 0$ x-int: $y = 0$
 $y = (0)^2 - 8(0) + 7$ $0 = x^2 - 8x + 7$
 $y = 7$ $0 = (x-7)(x-1)$
 $(0, 7)$ $x-7 = 0$ $x-1 = 0$
 $x = 7$ $x = 1$



standard

2.) Graph $y = x^2 - 2x + 3$

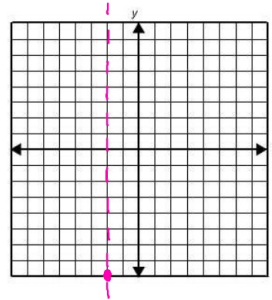
$a = 1$ $b = -2$ $c = 3$
 Axis of symmetry: _____
 Vertex: _____
 Vertex Form: _____
 Direction of Opening: _____
 y-intercept: _____
 x-intercepts: _____, _____



vertex

3.) Graph $y = \frac{1}{2}(x+2)^2 - 8$

$a = \frac{1}{2}$ $h = -2$ $k = -8$
 $x = h$ Axis of symmetry: $x = -2$
 (h, k) Vertex: $(-2, -8)$
 Direction of Opening: _____
 y-intercept: _____
 x-intercepts: _____, _____



vertex

4.) Graph $y = -2(x-4)^2 + 6$

$a = -2$ $h = 4$ $k = 6$
 $x = h$ Axis of symmetry: $x = 4$
 (h, k) Vertex: $(4, 6)$
 Direction of Opening: down $a < 0$
 y-intercept: $(0, -26)$
 x-intercepts: $(5.7, 0)$ $(2.3, 0)$

y-int: $(x = 0)$ x-int: $(y = 0)$
 $y = -2(0-4)^2 + 6$ $0 = -2(x-4)^2 + 6$
 $= -2(16) + 6$ $-6 = -2(x-4)^2$
 $= -26$ $\frac{-6}{-2} = \frac{-2(x-4)^2}{-2}$
 $(0, -26)$ $\sqrt{3} = \sqrt{(x-4)^2}$ $x = \sqrt{3} + 4$
 $\sqrt{3} = x - 4$ $x = 5.7$

